CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.07/MP/CEMENT/2014-15

Date: 03.07.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. M. Prakash**, Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	a) Initial Setting Time	IS-4031 (Part -5)	150 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	460 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	26.00 %	-

Note:

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CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/W.No.07/MP/SAND/2014-15 : 03.07.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of Work : Improvements to Roads at Ward No.07, Byatarayanapura in Sanjeevanagara, BBMP, Bangalore.Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Date of Testing : 03.07.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	95	4.75	4.75	95.3	90-100
2.36	227	11.35	16.10	83.9	75-100
1.18	502	25.10	41.20	58.8	55-90
600 Micron	415	20.75	61.95	38.1	35-59
300 Micron	487	24.35	86.30	13.7	8-30
150 Micron	208	10.40	96.70	3.3	0-10

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Job No.: CTCE/BBMP/W.No.07/MP/AGG/2014-15 : 03.07.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of Work : Improvements to Roads at Ward No.07, Byatarayanapura in Sanjeevanagara, BBMP, Bangalore.Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Date of Testing : 03.07.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **26000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	1020	3.92	3.92	96.08	95-100
20	15685	60.33	64.25	35.75	30-70
10	6250	24.04	88.29	11.71	10-35
4.75	2545	9.79	98.08	1.92	0-5

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Job No.: CTCE/BBMP/W.No.07/MP/CEMENT/2014-15

Date: 05.07.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. M. Prakash**, Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	a) Initial Setting Time	IS-4031 (Part -5)	135 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	470 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	28.00 %	-

Civil-Tech Consultants & Engineers Bangalore

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Job No.: CTCE/BBMP/W.No.07/MP/SAND/2014-15 : 05.07.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of Work : Improvements to Roads at Ward No.07, Byatarayanapura in Sanjeevanagara, BBMP, Bangalore.Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Date of Testing : 05.07.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	60	3.00	3.00	97.0	90-100
2.36	235	11.75	14.75	85.3	75-100
1.18	485	24.25	39.00	61.0	55-90
600 Micron	410	20.50	59.50	40.5	35-59
300 Micron	485	24.25	83.75	16.3	8-30
150 Micron	215	10.75	94.50	5.5	0-10

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Job No.: CTCE/BBMP/W.No.07/MP/AGG/2014-15 : 05.07.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of Work : Improvements to Roads at Ward No.07, Byatarayanapura in Sanjeevanagara, BBMP, Bangalore.Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Date of Testing : 05.07.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	885	3.54	3.54	96.46	95-100
20	15850	63.40	66.94	33.06	30-70
10	4585	18.34	85.28	14.72	10-35
4.75	2540	10.16	95.44	4.56	0-5

Note:

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.07/MP/STEEL/2014-15 03.07.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M. Prakash**, Contractor, Bangalore.
Name of the work	:	Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014
Date of Test	:	03.07.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	553	13.20	O.K	O.K

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Job No.: CTCE/BBMP/W.No.07/MP/STEEL/2014-15 05.07.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M. Prakash,** Contractor, Bangalore.
Name of the Work	:	Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014
Date of Test	:	05.07.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	12	0.89	515	558	13.20	O.K	O.K

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Job No.: CTCE/BBMP/W.No.07/MP/STEEL/2014-15 05.07.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M. Prakash,** Contractor, Bangalore.
Name of the Work	:	Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014
Date of Test	:	05.07.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	16	1.58	520	563	13.50	O.K	O.K

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Job No.: CTCE/BBMP/W.No.07/MP/CUBE/2014-15 13.08.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Culvert Deck Slab Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.07.2014	13.08.2014	8.158	476.3	21.17
2	16.07.2014	13.08.2014	8.239	498.6	22.16
3	16.07.2014	13.08.2014	8.310	518.3	23.04

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Job No.: CTCE/BBMP/W.No.07/MP/CUBE/2014-15

15.08.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.07.2014	15.08.2014	8.120	476.8	21.19
2	18.07.2014	15.08.2014	8.230	510.2	22.68
3	18.07.2014	15.08.2014	8.347	526.8	23.41

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TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.07.2014	15.08.2014	8.135	478.9	21.28
2	18.07.2014	15.08.2014	8.258	506.3	22.50
3	18.07.2014	15.08.2014	8.325	518.6	23.05

Note:

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Job No.: CTCE/BBMP/W.No.07/MP/CUBE/2014-15 16.08.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.07.2014	16.08.2014	8.115	480.5	21.36
2	19.07.2014	16.08.2014	8.298	510.6	22.69
3	19.07.2014	16.08.2014	8.352	522.5	23.22

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TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Prakash,** Contractor, Bangalore.

Name of the work : Improvements to Roads and Drains in Amruthahalli Western side surrounding Roads in Ward No.07 (Byatarayanapura) in Kodigehalli Sub Division, BBMP, Bangalore.

Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.07.2014	16.08.2014	8.152	476.6	21.18
2	19.07.2014	16.08.2014	8.290	485.6	21.58
3	19.07.2014	16.08.2014	8.317	495.5	22.02

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Job No.: CTCE/BBMP/W.No.07/MP/CUBE/2014-15 18.08.2014

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Reference : AEE/(KOD.SUB.DIV)/ /2014-15 Dated: 01.07.2014

Sample ID : Road Concrete

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Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	21.07.2014	18.08.2014	8.155	478.6	21.27
2	21.07.2014	18.08.2014	8.280	492.5	21.89
3	21.07.2014	18.08.2014	8.335	519.3	23.08

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Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	21.07.2014	18.08.2014	8.235	489.5	21.76
2	21.07.2014	18.08.2014	8.359	510.8	22.70
3	21.07.2014	18.08.2014	8.475	528.9	23.51

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Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2014	20.08.2014	8.111	477.8	21.24
2	23.07.2014	20.08.2014	8.299	489.6	21.76
3	23.07.2014	20.08.2014	8.350	516.4	22.95

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Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2014	20.08.2014	8.198	479.5	21.31
2	23.07.2014	20.08.2014	8.266	495.5	22.02
3	23.07.2014	20.08.2014	8.349	520.1	23.12

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Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2014	21.08.2014	8.155	482.5	21.44
2	24.07.2014	21.08.2014	8.284	490.5	21.80
3	24.07.2014	21.08.2014	8.395	515.3	22.90

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Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2014	21.08.2014	8.238	502.6	22.34
2	24.07.2014	21.08.2014	8.325	510.6	22.69
3	24.07.2014	21.08.2014	8.410	536.5	23.84

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